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25X1

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[redacted] 25X1

I should like to advise you and your staff of some interesting developments in the Diazo field which could result in significant advantages to the recce and the mapping community.

As you know, we have a working agreement with [redacted] During 25X1
a recent meeting, our technical people were advised of the progress on reversing Diazo materials.

Along with actually seeing results of several types and tests of these coatings, we had the opportunity to perform several tests; among the most interesting characteristics observed were:

1. Possibilities of Gamma One, Density two.
2. Very long ranges--21 steps, 35 steps, without any problem at all.
3. Exceptionally high resolution capabilities due to mechanics of exposing and processing steps resulting in very thin coatings.
4. Apparently any color can be produced.
5. Low contrast is inherent and easy to produce.
6. A system of contrast control is possible through either neg.-pos., or pos.-neg., or neg.-pos.-pos., with all the qualifying characteristics of silver.
7. Can and has been coated with Glossy papers, sulfite bond, acetate films and chromes.
8. Developing and clearing system is simple, dry and stable.
9. Good neutral blacks through all densities.
10. No ammonia necessary in the system.
11. All chemistry in the system is conventional and all past know-how still applies, only the mechanics of the chemical system have changed. An AZO dye/coupler color former is still in effect producing an aniline dye image.

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Basically, the system is as follows:

A two component, non-active diazo is combined with both the ammonium and coupler components in the coating. When ultraviolet energy at 3900 Å strikes the diazo components they become an active diazo which immediately couples due to the presence of ammonia. After exposure to the UV, one may inspect the final image for density and range. Following exposure, it is necessary to acidify the material to neutralize the ammonium component. This prevents further coupling when re-exposing. Acidification is effected with acedic acid vapors. A 3=1 exposure then follows, which destroys and activates the remaining diazo, which cannot couple as the base is neutralized, thus, the process is stable.

These materials require hardware which is directly related to the equipment we are presently producing; in fact, few modifications are necessary.

Possible applications include:

1. Negative Diazo microfilm roll to roll duplicators
2. Negative Diazo Microfiche duplicators
3. Positive motion picture film duplicators via neg. Diazo
4. Glossy photo positive printer via neg. Diazo.
   (For photo finishers, Graphic Arts, Aerial Film Contact Printer-Processors)
5. Negative Diazo Blueprint/Graphic Arts printer-processor for reverses on inexpensive paper prints. (At Blue Line costs)

I believe the foregoing applies to the RIPP, the Fly-Away Kit and to various Printers we have discussed.

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July 29, 1966

The data herein must be considered proprietary

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